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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,426	12/28/2000	Hiroshi Nishimoto	826.1656 (JDH)	5685
21171	7590	12/13/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,426

Applicant(s)

NISHIMOTO, HIROSHI

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/03/04 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 9-13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Fatehi (U.S. Patent No. 6,512,612).

Regarding claim 1, Fatehi teaches an apparatus having a plurality of signal inputs and a plurality of signal outputs, comprising: one or more sub-switch units (Figure 3) each having a portion of the signal inputs (e.g. 1 through N in Figure 3A), which are not all of the signal inputs that the apparatus is able to accommodate (e.g. 1 through NK+0 in Figure 3A), and switching and connecting (via switch 201 in Figure 3A) the portion of the signal inputs to a portion of the signal outputs (e.g. 1 through N in Figure 3A), which are not all of the signal outputs that the apparatus is able to accommodate (e.g. 1 through NK+L in Figure 3A), wherein the one or more

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sub-switch units are independent from one another (e.g. the switching function of each switch is independent from the switching from the other switch) and form a non-complete switch (e.g. two switch portions, as seen in Figure 3) through which all the signal inputs to the apparatus are switched and connected. The examiner believes that Fatehi continues to anticipate the claimed invention including the applicant's added limitation that *each* of the one or more sub-switches have a portion of the signal inputs. This conclusion has been reached given that the singular case provided by the alternative language of claimed invention only requires a single sub-switch to have a plurality of signal inputs. This is clearly shown in Figures 2-3B of Fatehi. Furthermore, the examiner has concluded that the sub-switches of Fatehi function independently in the switching function they carry out.

Regarding claim 2, Fatehi teaches the apparatus according to claim 1, further comprising: a wavelength demultiplexing unit (reference numeral DMU₁ in Figure 3A) demultiplexing an input wavelength-multiplexed signal into optical signals respectively having a single wavelength (e.g. λ_1 - λ_N); and a wavelength multiplexing unit (reference numeral OMU₁ in Figure 3A) multiplexing the signals respectively having the single wavelengths, which are switched and connected by the one or more sub-switching units (reference numeral 201 in Figure 3A), into an output wavelength-multiplexed signal (e.g. $\Sigma\lambda_i$ in Figure 3A).

Regarding claim 3, Fatehi teaches the apparatus according to claim 2 wherein the one or more sub-switch units, to which optical signals are respectively input, switch and connect in units of optical signals (as seen in Figure 3A).

Regarding claim 4, Fatehi teaches the apparatus according to claim 1, further comprising: an electro-optic converting unit (reference numeral 243 in Figure 2) converting an electric signal

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into an optical signal; and an opto-electric converting unit (reference numeral 242 in Figure 2) converting an optical signal into an electric signal, wherein the one or more sub-switch units respectively switch and connect the electric signals (via switch 247 in Figure 2).

Regarding claim 5, Fatehi teaches the apparatus according to claim 1, further comprising: an electro-optic converting unit (reference numeral 243 in Figure 2) converting an electric signal into an optical signal; and an opto-electric converting unit (reference numeral 242 in Figure 2) converting an optical signal into an electric signal, at least one optical switch unit (reference numeral 201 in Figure 2) and at least one electric switch unit (reference numeral 247 in Figure 2), both of which are respectively located within the one or more sub-switch units and independently switch input signals to output signals (as seen in Figure 2), and wherein said opto-electric converting unit (reference numeral 242 in Figure 2) inputs an electric signal to said electric switch unit (reference numeral 247 in Figure 2) and said electro-optic converting unit (reference numeral 243 in Figure 2) receives an electric signal from said electric switch unit (reference numeral 247 in Figure 2) and outputs an optical signal.

Regarding claim 6, Fatehi teaches the apparatus according to claim 1, wherein at least one of the one or more sub-switch units switches and connects in units of wavelength-multiplexed signals (both switching units switch groups of wavelengths).

Regarding claims 7 and 11, Fatehi teaches the apparatus according to claim 1, wherein at least one of the one or more sub-switch units is a through unit that passes signals through unchanged without switching and connecting the signals (column 12 lines 10-16 and indicated by $\lambda 1$ being through connected by the optical switch).

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Regarding claim 10, Fatehi teaches a signal switching and connection method for use in an optical node device having a plurality of signal inputs receiving a plurality of signals and a plurality of signal outputs, the method comprising:

Providing a non-complete group switch (as seen in Figure 2) having one or more independent sub-switch units

inputting a portion (e.g. λ_1 - λ_N) of the plurality of signals into each of the sub-switch units and; switching, connecting, and outputting the portion of the signals (via switch 201 in Figure 2), wherein all of the plurality of signals are switched and connected by the non-complete group switch (via switch 201 in Figure 2) by performing said inputting a portion of the plurality of signals and said switching connecting, and outputting the portion of the signals for all of the signals input to the optical node device (via switching apparatus 201 in Figure 3A).

Regarding claim 12, Fatehi teaches that certain ones (e.g. λ_1 - λ_N) of the signals (e.g. λ_1 - λ_{NK+0}) input to the optical node device are switched and connected in units of wavelength-multiplexed signals (as seen in Figure 2).

Regarding claim 13, Fatehi teaches the signal switching and connection method according to claim 10, further comprising:

passing through a second portion of the signals input to the optical node device without switching and connecting the second portion of the signals (e.g. through signals as indicated by λ_1 in Figure 2);

switching and connecting a third portion of the signals input to the optical node device in units of wavelength-multiplexed signals (switching of the other signals λ_2 - λ_N in Figure 2); and

selecting any of said switching, connecting, and outputting the portion of the signals, said passing through a second portion, and said switching and connecting a third portion for all of the signals input to the optical node device (clearly any of the signal groups λ_1 - λ_N , λ_{N+1} - λ_{2N} etc can be used as the signals input to the node device).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi in view of Kaminow (U.S. Patent No. 5,623,356).

Regarding claim 8, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach a distribution switch unit distributing signals to any of the one or more sub-switch units; and a selection switch unit selecting and outputting signals output from the one or more sub-switch units. However, use of distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units are well known in the art. Kaminow, in the same field of endeavor, teaches it is well known in the art to use distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units (Figure 3). One skilled in the art would have been motivated to use such a configuration in order to allow more flexibility in the switching variations possible. Therefore, it would have been obvious to one skilled in the art at

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the time the invention was made to use distribution switch units for distributing signals to any of a plurality of switching units and a selection switch units for selecting and outputting signals output from the plurality switching units.

6. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi.

Regarding claims 9 and 14, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach a plurality of optical ADMs, wherein a dropped signal from the optical ADMs is input to the one or more sub-switch units, and an output from the one or more sub-switch units is added to the optical ADMs. However, optical ADMs are very well known in the art and could have easily been coupled to system of Fatehi. One skilled in the art would have been motivated to couple an ADM in order to switch the dropped signals to respective outputs or to switch respective inputs to particular optical paths. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have coupled an ADM unit to the switching unit of Fatehi.

Conclusion

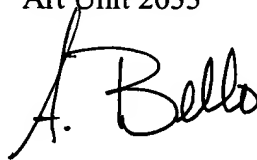
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
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A handwritten signature in black ink, appearing to read 'A. Bello', written over the printed name.

AB